# Multilateral Medical Operations Panel (MMOP)
# Medical Informatics & Technology (MIT) Working Group

# MDS MIC Catalog Inputs

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# Purpose

- **To provide input for updating the MDS MIC Catalog**
  - To reach MITWG member agreement MIC Terminology
  - To reach agreement on MITWG Process for developing MIC-DDs (MIC-Data Descriptions)
  - To reach MITWG member agreement MIC Data Flows.
- **To request that MMOP assign Action Item to other working groups and FSs to support the MITWG Process for developing MIC-DDs.**

# MIC Terminology And Classifications

- **Several Ways To Classify MICs**
  - By Hierarchy Levels
    - From low level raw data MICs to top level decision MICs
  - By MIC-Data Description Documents
    - MIC-DD/F and MIC-DD/N, and MIC-DD/U
  - By Use Categories
    - Intrinsic
    - List from MIC Template
  - By MIC Data Flow
    - MICs can be identified through usage in MIC Data Flows
  - By Requirements
    - Med Vol A & B
    - ISS Program Requirements (MSMB FRRs, etc.)
    - FS & WG flow-down requirements from MORD

# MIC Hierarchy Terminology

## D - Decision MICs

Med Ops decisions that are made using one or more lower level MICs while applying ISS Flight Rules, ISS Medical Documents, and ISS Program Decisions

## MS – Medical Summary MIC

Medical summary of one or more Data MICs that is written or presented in a report format without containing any raw or processed data.

## I - Interpretation MICs

Medical interpretation of one or more Data MICs that is written or presented in a report format using medical expertise. Reports include attributable crew subsets of relevant raw and/or processed data in various comparison or explanatory formats.

## PD - Processed Data MICs

Human and/or equipment/software applications have converted samples and/or raw data into medical information in various formats and mediums.

## RD – Raw Data MICs

Data directly from sensor or medical equipment. Typically acquired in to data files, displays, or paper products.

## PS – Physical Sample MICs

e.g., air, water and environmental samples

Note – MICs are not limited to paper documents, files, etc. e.g., may be verbal.

# MIC Data Description Terminology

- **A Medical Information Communiqué (MIC) is any type of report, file, display, certificate or any type of communication which transmits medical or environmental information among Partners including communications between crew and medical personnel.**

- **A Partner Medical Information Communiqué (PMIC) is any type of report, file, display, certificate or any type of communication which transmits medical or environmental information among that agency's personnel.**

# MIC Data Description Terminology (continued)

## MIC Data Descriptions (MIC-DDs)

- Metadata documents created by filling out the MIC template for each MIC and including a sample MIC, using generic data that is not attributable to any crewmember
- A list of all of the MIC DDs will be in an appendix of the MDS MIC Catalog
- Each MIC DD will be a Microsoft Word document file that will be included in an appendix of the MDS MIC Catalog.
- By definition MIC-DDs are MICs that are or will be shared among the partners according to the “Users” attributes defined in the MIC-DDs

## Partner Data Descriptions (PDDs)

- Metadata documents created by an agency based upon medical data reports, displays, etc. used by its medical staff.
- Metadata documents that can be used for discussions between partners for deciding if PDDs can be evolved into MIC-DDs.

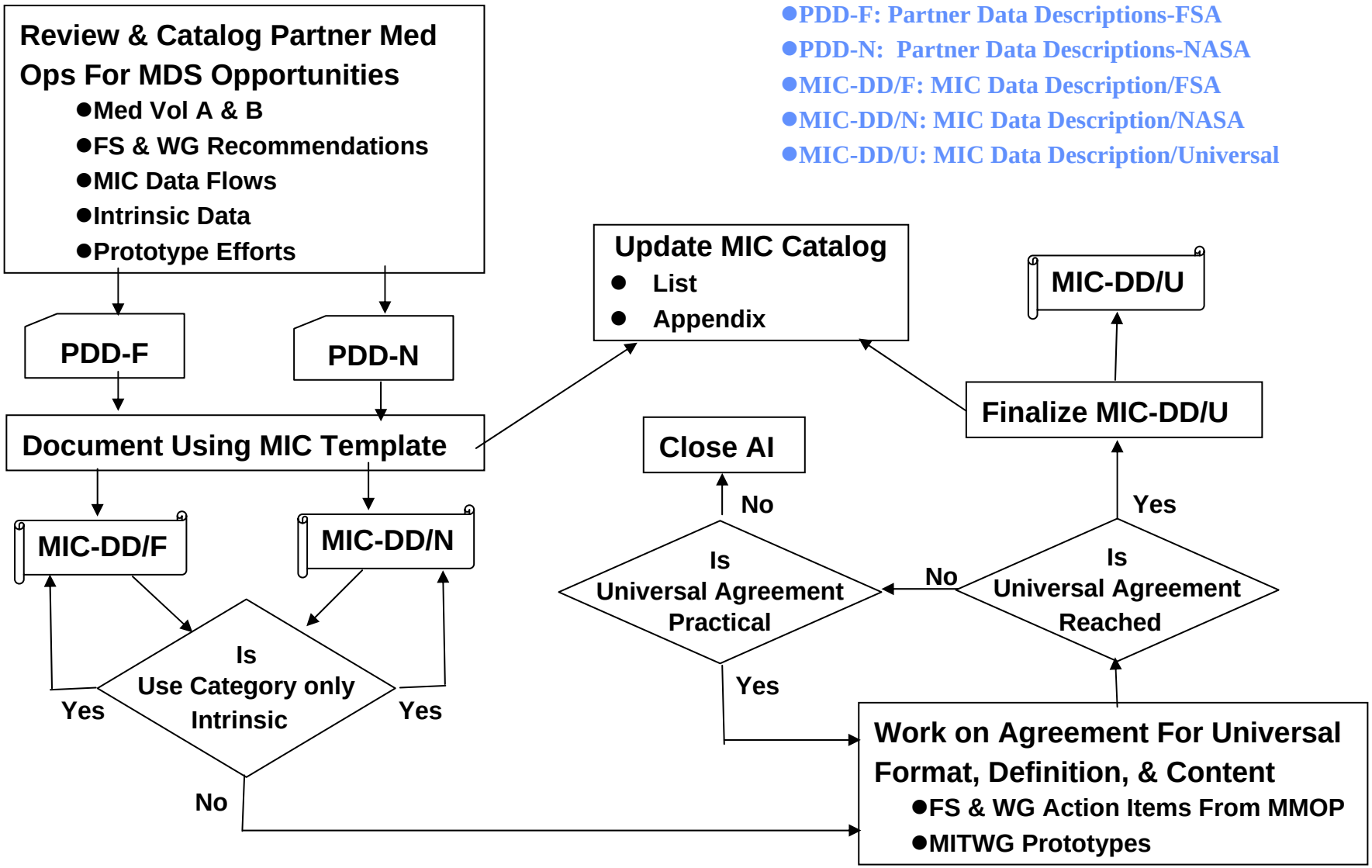
# Intrinsic MICs Terminology Clarifying Data Sharing

- Most of the initial Raw Data and Processed Data is generated by or passes through NASA and Russian equipment, systems, control centers and custodians. The other partner's crewmember data, which NASA and Russian equipment (onboard or ground labs) generates, needs to be shared with each crewmember's agency. For ease of reference these types of data sharing are labeled as "Intrinsic MICs" and indicted as such in the use category row of the MIC Template
- If sharing of Intrinsic MICs with other partners is agreed upon, then this agreement for additional data sharing will be documented in the MIC Template row specifications for the use category, users, and ISS requirements, etc.
- All MICs, including Intrinsic MICs will be documented using the MIC Template to create a MIC Data Description (MIC-DD) for inclusion in the MIC Catalog. However, unless an Intrinsic MIC is agreed upon and documented to be shared with ISS partners, it will not be stored and retrievable in the IMMR. It will simply be Med Ops data communicated through ISS custodians to the crewmember's agency's PMR.

# MITWG Process For Developing MIC-DDs

**Acronyms**

- PDD-F: Partner Data Descriptions-FSA
- PDD-N: Partner Data Descriptions-NASA
- MIC-DD/F: MIC Data Description/FSA
- MIC-DD/N: MIC Data Description/NASA
- MIC-DD/U: MIC Data Description/Universal



# MITWG Process For Developing MIC-DDs (continued)

- **MIC Catalog will have appendices including,**
  - Appendix for MIC Template
  - Appendix for List of MIC-DDs
  - Appendix for List of PDDs
- **Initially, all documents considered for sharing will be designated as PDD-Fs and PDD-Ns**
- **Medical data which is under consideration for Intrinsic and/or multilateral medical data sharing will be included in the PDD list using the partner's agency format description of the medical data. Primarily these PDDs will come from FSA and NASA.**
- **MITWG will coordinate with FSs and working groups applying the MIC Template to develop MIC-DD/Fs and MIC-DD/Ns, which will be added to the MIC Catalog for further processing.**
- **After applying the MIC Template the first decision will be to determine if the only Use category for medial data sharing in Intrinsic.**
  - If Intrinsic sharing is the only Use Category then MIC-DDs will remain as MIC-DD/Fs and MIC-DD/Ns.
  - If answer is no, then further assessment for MDS will occur.

# MITWG Process For Developing MIC-DDs (continued)

- **Work will continue for agreement on MDS using a Universal format, definition, and content by reaching agreement on a MIC-DD/U.**
  - MITWG will require active support from the FSs and from other working groups to accomplish this effort. MMOP members will serve more as facilitators with others performing the assessments.
  - This effort will include results from prototyping activities as well as analytical assessments.
  - This effort is viewed as a parallel effort by FSs and working groups concentrating on respective MIC-DDs.
  - This is viewed as an iterative process where some MIC-DD/Us are incrementally approved by the appropriate FSs and working groups.
- **Some MIC-DD/Fs and MIC-DD/Ns may be easily and quickly promoted into MIC-DD/Us by reaching agreements.**
  - Others may require more effort and time.
  - Some may be determined to be impractical for a MIC-DD/U and will remain as MIC-DD/Fs and MIC-DD/Ns.
  - If assessment using current Use categories determines no potential for MDS sharing including Intrinsic, these will be moved back to the PDD List. They will be maintained on the PDD list for future assessment by new Use Categories.

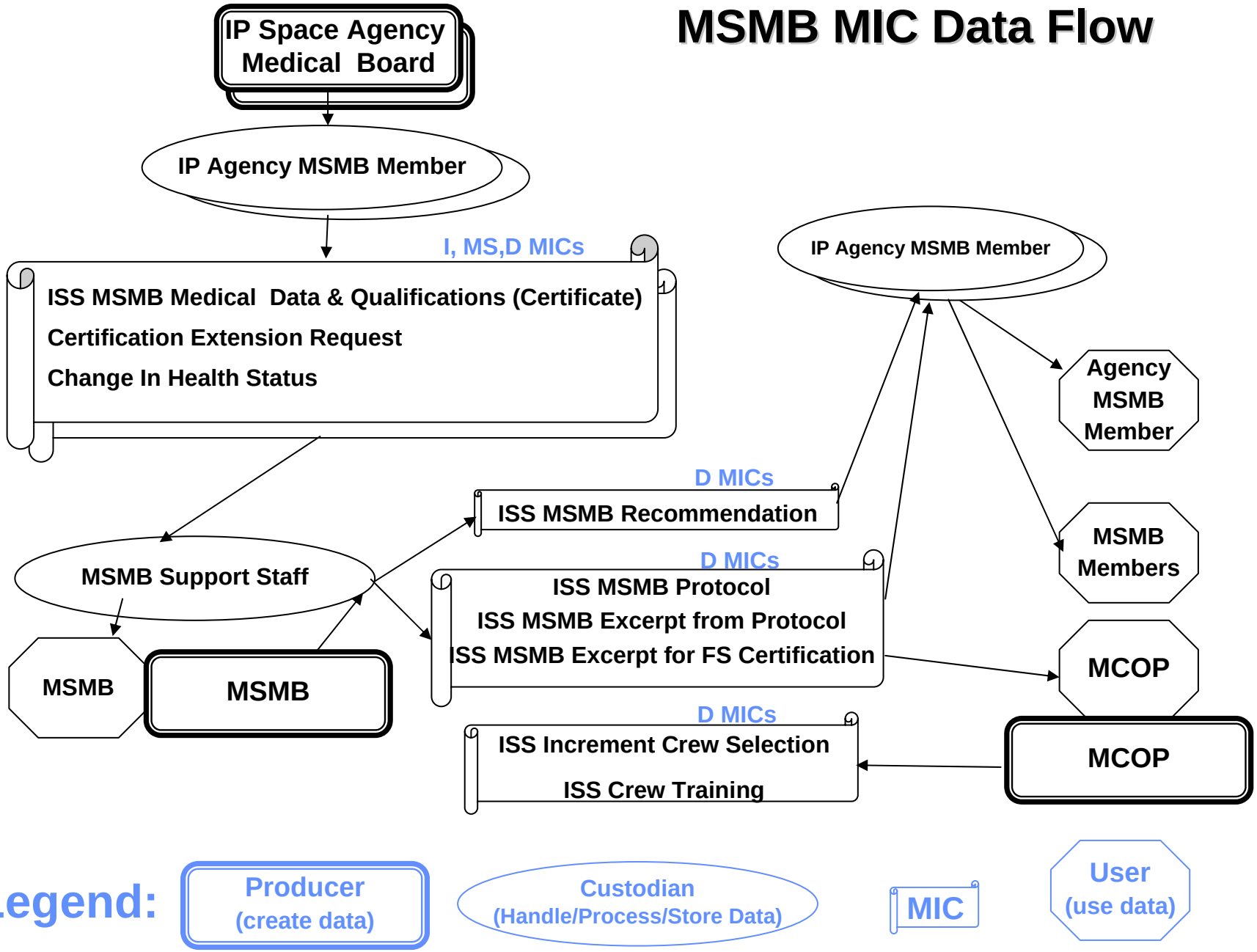
# Document Classifications & Sharing Implications

| | | |
|---|---|---|
| **Same content, same format** | **E.g. MSMB Certificate** | **Share as is** |
| **Same or similar content, different formats** | **E.g. Pre-flight physical** | **Share as is *OR* Create universal format** |
| **Different content, different formats (some intersection)** | **E.g. Medical training certification** | **Share as is *OR* Create universal format** |
| **No matching documents** | **E.g. space flight factors** | **If no requirement for sharing, stays a partner data document** |

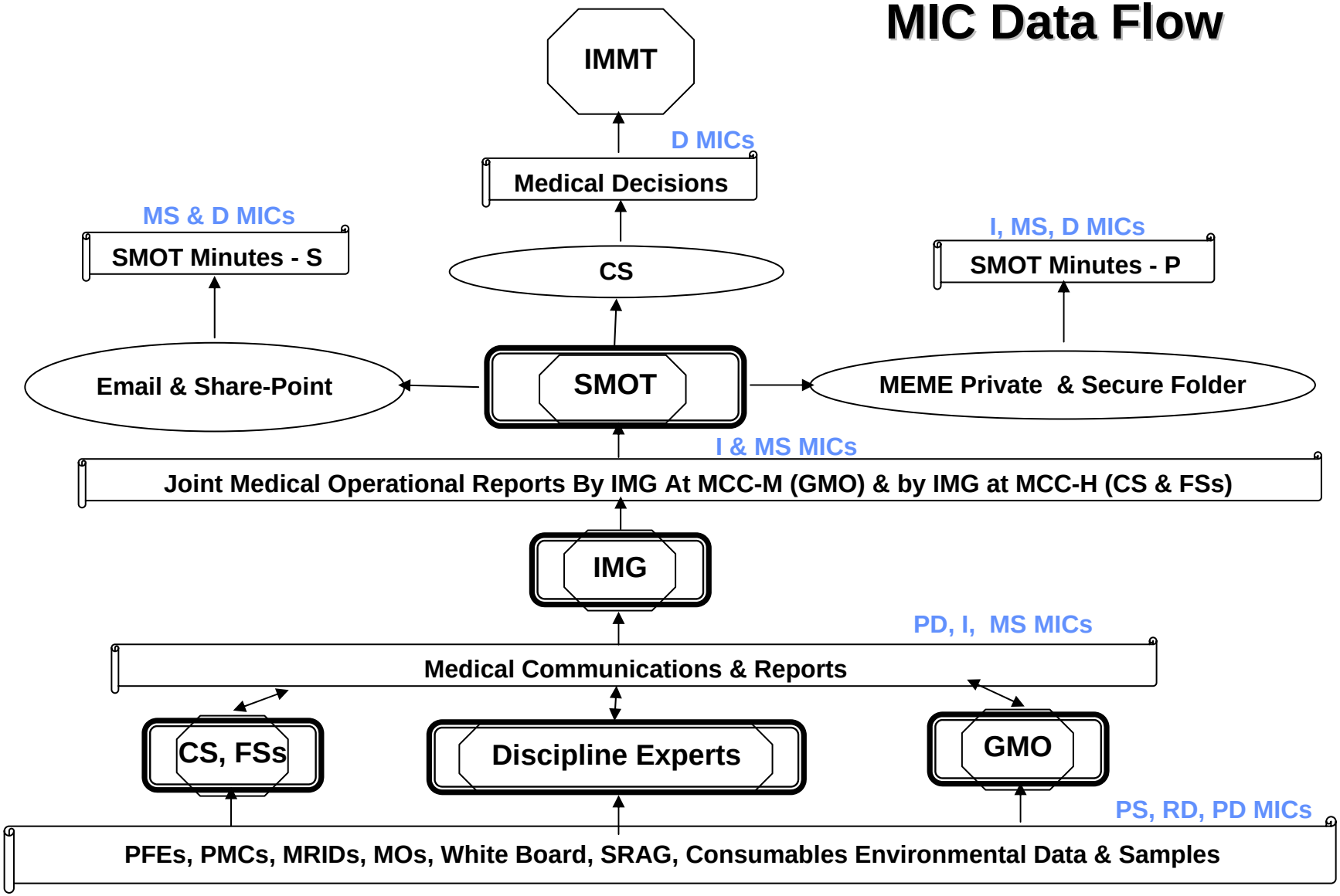
# MIC Data Flows

- **MIC Data Flows are flow diagrams showing how MICs are created and used by specific Use Categories.**
- **The MIC Data Flows show process (or procedure) relationships between the producers, users, and custodians & help maintain consistency with JMOIP**
- **The MIC Data Flows show how MICs are related to each other in the Use Categories.**
- **The MIC Data Flows show how MICs evolve through the hierarchical levels**

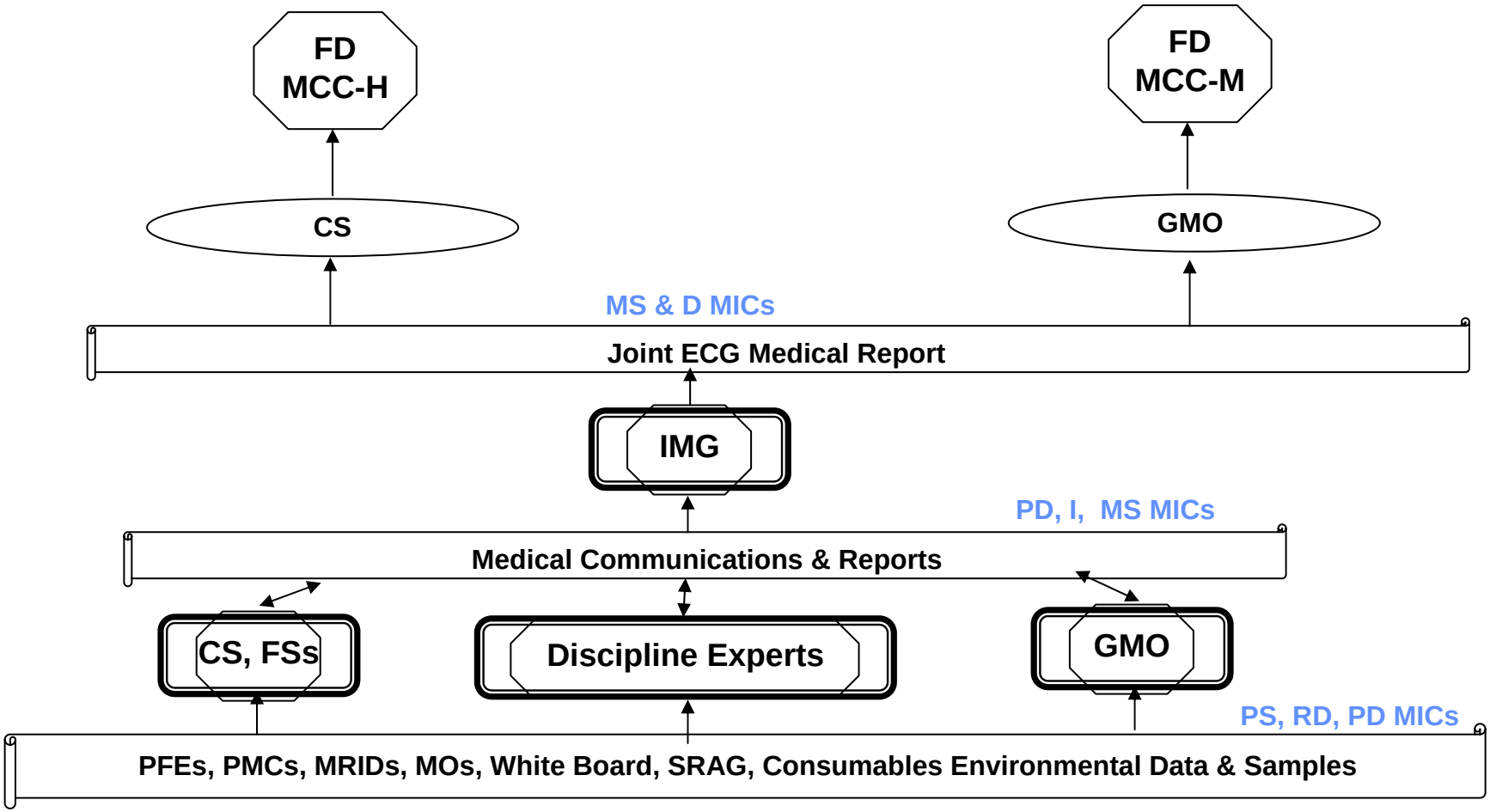
# MSMB MIC Data Flow



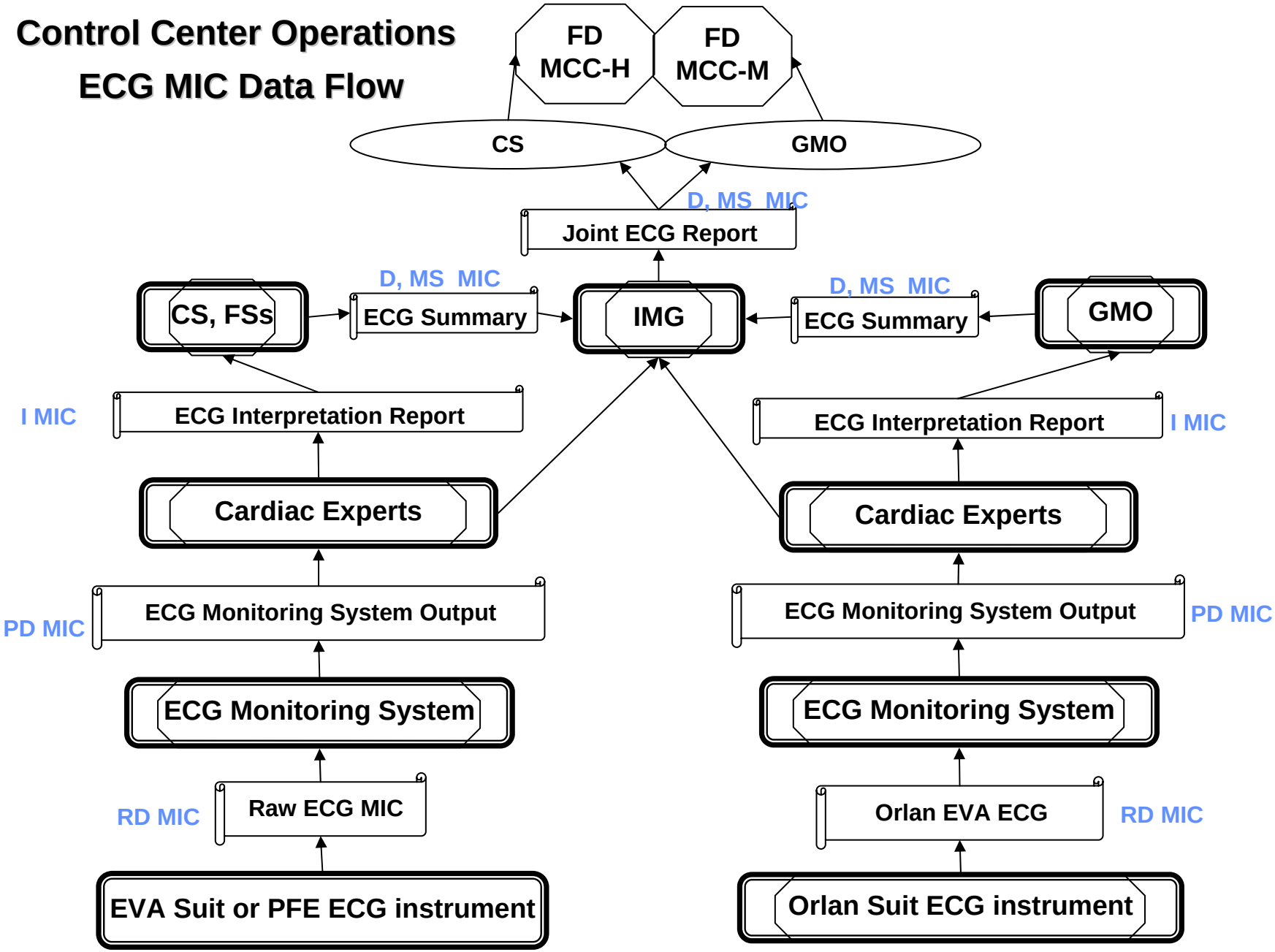
# SMOT
# MIC Data Flow



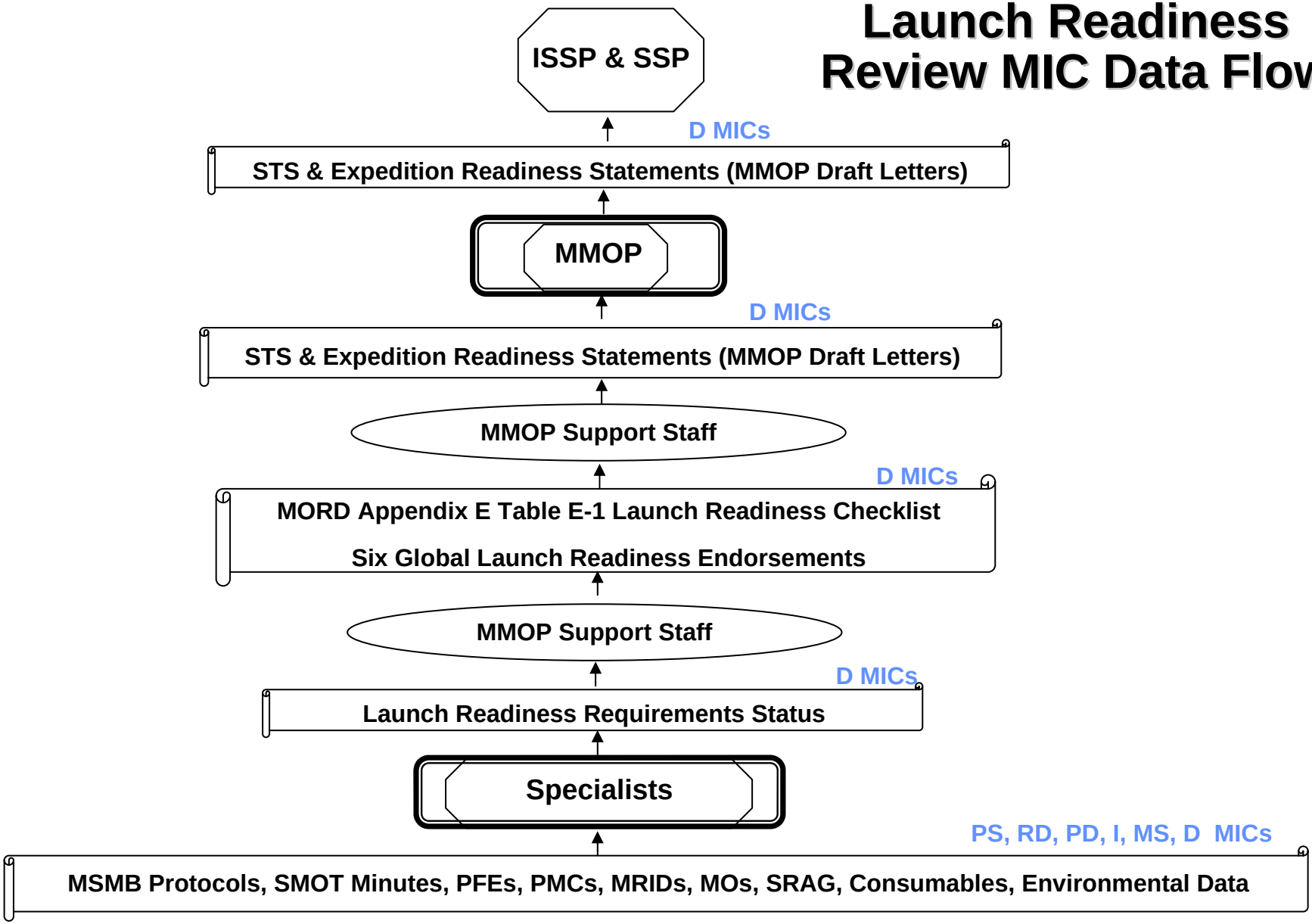
# Control Center Medical Operations
# MIC Data Flow



# Control Center Operations
# ECG MIC Data Flow



# Launch Readiness Review MIC Data Flow



# Use Category and Data Flow Relationships

- **MIC Data Flows can be used to clarify and identify MICs and MIC relationships in each use category.**
- **For example, using current Use Categories**
  - Science/research
  - Operational clinical care
    - SMOT MIC Data Flow
    - Control Center MedOps MIC Data Flow
    - ECG MIC Data Flow
  - Crew Selection/Certification
    - MSMB MIC Data Flow
  - Archival Records Retention
  - Govt./Legal Policy
  - Readiness for Flight
    - Launch Readiness Review MIC Data Flow

# Decision and Plans

- **Agree with the MIC terminology, data flows, and process contained on the slides in this presentation as updated during the FTF Meeting.**
  - Yes ? _____
  - No, more time needed to discuss? _____
- **Proceed with incorporating these slides into an update of the MDS MIC Catalog Document.**
  - Yes ? _____
  - No, more time needed to discuss? _____
- **Proceed with asking the MMOP to assign an Action Item to all of the MMOP Working Groups and the FSs (POCs already given to the MITWG) to support the MITWG Process for Developing MIC-DDs.**
  - Yes ? _____
  - No, more time needed to discuss? _____